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SOME PSYCHOLOGICAL CHARACTERISTICS OF SCHOOL DROPOUTS*

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The stereotyped image of the high school dropout is that of a dull, unambitious adolescent whose personality adjustment is inadequate. Recent research indicates that such generalizations are inexact. Few generalizations of this type can be proved unequivocally. Inadequate rapport with interviewed dropouts, sampling bias, as well as malingering in responding by dropouts are but a few reasons for inadequate understanding of the dropout: his abilities, his needs, his adjustment. Despite meager understanding of the behavioral causes and correlates of voluntary withdrawal from school, the pressing social and economic crises demand further inquiry and utilization of the little that is known. It must be conceded that the factors which limited other research workers in this area of study are likely to affect the present endeavor, too. Nevertheless, should an iota of functional information result from this investigation it may help in some small way to mitigate human misfortune.

North Carolina has undertaken a vocational - educational program to rehabilitate school dropouts. "Operation Second Chance" is its name. In addition to job training and basic education, research on school dropouts is a major purpose of the project. Not only is the research arm of the project expected to assess the effectiveness of the rehabilitation endeavor but it is expected to identify psychological characteristics of the dropouts, too.

Sample

Three centers in North Carolina have been selected to participate in this project: one in the East, a second in the Piedmont, a third in the West. Areas were chosen according to the following criteria: 1. high dropout rate (60-70%), 2. certification for aid under Area Redevelopment Act, 3. location near an Employment Security Office as well as near an Industrial Education Center, and 4. willingness to comply with the terms of the contract negotiated between the U. S. Department of Labor and the State of North Carolina.

At the present time, testing has been completed on 110 applicants in the Piedmont (P) and 179 applicants in the West (W).

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Procedure

1. Through radio spot announcements, newspaper articles, and form letters written to each known dropout between the ages of 16 and 22, all dropouts expressing an interest in participating in the retraining program were notified of their acceptability.

2. Joint efforts by Employment Security and Department of Public Instruction, permitted each applicant to be interviewed by a counselor and to be administered the General Aptitude Test Battery.

3. The members of the research staff, then administered a battery of tests including the Brainard Occupational Inventory and the Personell Tests for Industry, both of which were later discontinued, as well as the Wechsler Adult Intelligence Test, the Benton Visual Retention Test, the Wide Range Achievement Test and the Structured Objective Rorschach Test.

Results

Economics in time and money were considered in planning the research. The Brainard Occupational Inventory and the Personnell Tests for Industry were the first tests administered. It was felt that a program might be built around the interests and aptitudes of the applicants. A T score of 60 on the Brainard was deemed indicative of a vocational interest because it is the 84th percentile. In Table 1 are the average T scores of the first 39 applicants. All averages lie between the 24th and the 38th percentile, prohibiting the use of interest scores in program planning. A possible interpretation of these data is that dropouts have no

Table 1

Central Tendency and Variability of Interest Scores

Field	Mean	Standard Deviation
Commercial	47.59	13.03
Mechanical	46.82	12.16
Professional	47.12	12.60
Esthetic	43.26	15.00
Scientific	43.97	15.77
Agricultural - Personal Service	42.74	14.93

vocational interest. Doubt was raised about the validity of the profiles. It was discovered that there were non-readers in the sample. This might explain in part why 59% of the applicants designated the extreme positions of "strongly like" and "strongly dislike" at least twice as often as one would expect on the basis of chance. Using the T score criterion of 60, only 36% of the sample were observed to have any measurable vocational interest. Non-reading and response bias made it difficult to interpret the PTI scores, too. These tests, though economical of time and money, were discontinued because they yielded invalid measurements of behavior.

More accurate measurements, it was believed, could be obtained when tests would be given individually or in small groups. The first question asked of the data was is the sample a random sample from the general population in general intelligence. Goodness of Fit Tests were run on Samples P and W, (Table 2). Neither sample may be considered random. Rather, departure from normality is marked. A comparison between the distributions of scores in both samples reveals that the IQ's in Sample P are significantly different from those in Sample W, they being lower in W. From Table 3 further differences in intelligence between the samples may be observed from the Benton Visual Retention Test data. According to these data, approximately one-third of the Piedmont Sample and one-half of the Western Sample had IQ's below 70. These data are not in complete accord with the Wechsler data, but do confirm the already observed positive skew to the distribution of intelligence test scores. What is important to note is that although both

Table 2

Chi Square Tests of Wechsler Adult Intelligence Scale - Full Scale IQ Distributions

I. Q.	Piedmont	Western	Chi Square Difference P & W
0 - 74	18	34	
75 - 91	51	103	
92 - 108	39	36	8.44*
109 - 123	2	0	
124 +	0	0	
Goodness of Fit - Chi Square	87.01**	290.73**	

*Significant P.02 level with 4 df

**Significant beyond P.01 level with 4 df

Table 3

Chi Square Tests of Benton Visual Retention Test Data

	Correct Score			Error Score		
IQ Level	P	W	Chi Square	P	W	Chi Square
Defective	39	91		32	83	
Borderline	22	31		17	23	
Low Average	20	28	17.74*	27	38	28.02*
Average	21	10		28	18	
Superior	6	11		4	9	

*Significant beyond P.01 level, 4 df.

groups are low in intelligence, they are different from one another and these differences will arise because of chance fewer than one time in a 100.

The WAIS and BVR were administered individually, the GATB was given in groups. It is interesting to note in Table 4 that except for differences in numerical aptitude, there were no significant differences between the groups. Most of the scores do lie between the Fifth and 34th percentile, agreeing substantially with the results of the other intelligence tests in the battery. In addition to low aptitude, results of the achievement tests indicate that the average reading of the groups lies in the sixth grade, average spelling in the fifth and average arithmetic in the fifth. The Western North Carolina Sample achieved significantly lower grade scores on the Arithmetic Test than did the Piedmont Sample. The one GATB Score which yielded any differences between the groups, was the Numerical aptitude test. The Piedmont Sample scored significantly higher than the Sample from the West.

Intelligence tests tend to correlate highly with each other as well as with tests of achievement. Although both findings are borne out in this study, Table 5 indicates, however, that some of the intercorrelations in the Piedmont Sample are significantly different from those in the Western Sample. Spelling achievement is explained in terms of the WAIS Verbal, Performance and Full Scale IQ to a greater degree in the Piedmont Sample than in the Western Sample. This same effect was noted for the interrelationships of the WAIS Full Scale IQ with Reading and Arithmetic. It is possible that these differences may be due to initial differences in IQ. However, GATB Scores, most of which did not differentiate between the two samples, were also found to explain achievement and Wechsler Scores to a significantly greater degree in the Piedmont Sample than in the Western Sample. (Table 5).

Table 4

Tests of Significance Between Aptitudes and Achievements of Two Samples

	Piedmont: N = 110		West: N = 179		
Test	Mean	Standard Deviation	Mean	Standard Deviation	t
GATB					
G - Intelligence	80.7	17.9	79.2	13.6	-
V - Verbal	80.2	13.3	81.4	10.7	-
N - Numerical	78.1	18.5	73.4	17.8	2.14*
S - Spatial	87.9	21.5	85.5	17.6	-
P - Form Perc.	87.8	21.1	87.4	18.9	-
Q - Clerical Perc.	86.0	13.3	86.2	12.1	-
K - Motor Coordin.	84.2	22.1	88.1	18.8	-
F - Finger Dext.	83.2	22.5	83.6	18.5	-
M - Manual Dext.	85.9	22.6	85.8	20.3	-
WAIS - Intelligence Quotients					
Verbal	86.6	12.4	84.5	9.9	-
Performance	86.6	12.8	83.6	10.1	2.07*
Full Scale	85.7	12.4	82.7	9.6	2.14*
Wide Range Achievement - Grade					
Reading	6.2	2.9	6.0	2.5	-
Spelling	5.6	2.5	5.2	1.8	-
Arithmetic	5.7	1.8	4.8	1.9	4.09**

*Significant beyond P.05 with 287 df

**Significant beyond P.001 with 287 df

Table 5

Intercorrelations among WAIS, GATB, and WRAT for Both Samples

		WAIS		WRAT			GATB								
WAIS		Perf	Full	R	S	A	G	V	N	S	P	Q	K	F	M
Verbal	P	70	95	71	68	72	78	69	72	64	65	48	52	45	48
	W	59	92	55	45*	62	68	74	56	43*	41*	45	31*	32	17*
Performance	P		87	49	52	60	76	48	67	74	70	47	52	54	52
	W		86	33	24*	44*	59*	48	50*	51*	59	39	41	40	30*
Full Scale	P			68	67	74	84	67	76	74	73	53	58	53	57
	W			51*	41*	61*	72*	70	60*	52*	54*	48	39*	39	25*
Wide Range Reading	P				93	59	66	78	64	33	51	55	52	28	$\overline{03}$
	W				77*	38*	43*	65*	35*	19	25*	50	24*	06	39*
Spelling	P					62	68	73	69	37	56	57	52	32	39
	W					48	43*	58*	43*	22	19*	48	24*	06*	$\overline{05}$*
Arithmetic	P						82	67	85	58	70	59	60	54	$\overline{56}$
	W						59*	52*	63*	33*	48*	53	28*	34*	19*

*Results of Z tests indicate that the differences between the correlations of XY in the two samples are significantly different beyond P.05 level.

The Rorschach Psychodiagnostic Test has demonstrated its value in the clinic. Its applicability to a non-clinc population is not fully known. The scoring system, moreover, presents unique problems to research workers. The Structured Objective Rorschach Test (SORT) is a multiple choice personality test which retains the essential features of Rorschach Scoring but which has been standardized on a non-clinic population. In addition, raw scores have been transformed into T Scores, manipulable units of the normal curve. Personality ratings based on T Scores have been developed such that a T Score of 20 - 34 is Low; 35 - 44, Below Average; 45 - 55, Average; 56 - 65, Above Average; 66 - 80, High.

One of the questions with which this research is concerned is this, "Are dropouts a random sample from the normal population in personality attributes?" Thus far, its non-randomness with respect to intelligence has been demonstrated. To study this question for SORT characteristics, Goodness of Fit Tests were run. The high chi squares in Table 6 reveal that the distributions of trait ratings of the two samples of dropouts differ quite markedly from a normal distribution. With the exception of a few traits, distributions are skewed.

Despite the highly significant departures of the distributions from statistical normality, a high incidence of average ratings for many personality attributes was observed. Note the modal ratings of the samples on Practical (D), Induction (W:M), Deduction (D:M), Rigidity (S), Structuring (F), Concentration (F-:F), Range of Interests (H:P::A), Human Interests (H), Cooperation (CF:FC), Tact (FM::FC:M), Confidence (FM:M), Anxiety (Fch), Moodiness (FM:-::F:M) and Flexibility (M::FC:CF). Table 6 also reveals that although most of the distributions were different from normality, that the distributions of ratings in the two samples were different from one another, too. While both samples tended to be lower than average in facility for thinking in broad, general or abstract terms (W), the tendency was more obvious in the Western Sample than it was in the Piedmont. The Piedmont Sample, moreover, could be described as being high on perfectionism (dd), the Western Sample was average. The Piedmont dropouts tended to be more practical (D) than the Western Sample. The Western Sample tended to be average in empathic tendencies (P); whereas, the Piedmont Sample was low. The Piedmont Sample tended to be less original (O) than the Western Sample. With regard to aspiration toward goals by means of well accepted and morally developed procedures (F:M) the Piedmont Sample was average but the Western Sample tended to be rated above average and high. With regard to Social responsibility (FC:M), the Piedmont Sample was average, but the Western Sample received "low" ratings. The Western Sample rated lower in the capacity to follow through a planned course of action than was the Piedmont Sample. Both groups tended to reject socially accepted codes, customs and mores. The tendency toward nonconformity was less prominent in the Piedmont Sample.

Table 6

Chi Square Tests of Rorschach Attributes in Two Samples of Dropouts

Trait		Rating					Goodness of Fit
		Low	BA	A	AA	High	Chi Square
Theoretical	P	39	30	35	5	0	209.32**
	W	68	54	34	14	1	423.13**
Difference		Chi Square	32.41**				
Practical	P	3	19	55	30	2	7.36
	W	2	56	100	12	1	45.04**
Difference		Chi Square	70.36**				
Pedantic	P	0	4	21	29	55	442.07**
	W	2	18	116	31	4	32.73**
Difference		Chi Square	134.81**				
Induction	P	22	37	40	9	1	67.00**
	W	12	49	75	29	6	8.83
Difference		Chi Square	45.46**				
Deduction	P	4	20	62	21	2	5.70
	W	1	20	116	30	4	32.84**
Difference		Chi Square	29.13**				
Rigidity	P	22	29	41	12	5	51.96**
	W	9	45	77	36	4	5.97
Difference		Chi Square	54.53**				
Structuring	P	1	16	41	24	27	82.04**
	W	2	26	63	62	18	40.34**
Difference		Chi Square	39.79**				
Concentration	P	3	18	70	18	0	15.67**
	W	15	28	94	23	11	11.49*
Difference		Chi Square	26.92**				
Range of Interests	P	4	35	55	14	1	15.12**
	W	0	51	107	13	0	47.89**
Difference		Chi Square	28.40**				
Human Relations	P	3	22	44	30	10	7.84
	W	6	23	133	8	1	66.99**
Difference		Chi Square	166.89**				

Trait	Rating	Low	BA	A	AA	High	Goodness of Fit Chi Square
Regular	P	60	28	17	4	0	532.53**
	W	21	64	79	15	2	69.42**
Difference		Chi Square	141.91**				
Originality	P	5	34	25	21	24	74.08**
	W	2	25	91	47	6	15.04**
Difference		Chi Square	121.58**				
Aggressiveness	P	0	10	60	33	6	19.09**
	W	5	34	34	46	52	225.95**
Difference		Chi Square	85.80**				
Social Responsibility	P	14	34	55	6	0	34.83**
	W	95	54	19	2	1	876.13**
Difference		Chi Square	147.68**				
Cooperation	P	5	20	81	3	0	39.75**
	W	11	45	57	43	15	15.16**
Difference		Chi Square	79.43**				
Tact	P	1	38	57	13	0	25.28**
	W	9	56	82	23	1	23.86**
Difference		Chi Square	23.06**				
Confidence	P	8	20	62	9	10	13.76**
	W	4	32	114	18	3	29.39**
Difference		Chi Square	25.69**				
Consistency	P	2	18	35	40	14	33.24**
	W	3	25	68	35	39	102.83**
Difference		Chi Square	35.04**				
Anxiety	P	7	33	40	22	7	7.90
	W	25	47	67	28	4	36.89**
Difference		Chi Square	28.29**				
Moodiness	P	0	9	79	19	2	31.54**
	W	4	42	97	21	7	13.79**
Difference		Chi Square	34.85**				
Activity Potential	P	10	21	46	28	4	5.52
	W	45	59	59	4	4	187.68**
Difference		Chi Square	126.55**				

Trait		Rating					Goodness of Fit Chi Square
		Low	BA	A	AA	High	
Impulsiveness	P	0	18	70	18	3	15.66**
	W	1	2	28	52	88	739.06**
Difference		Chi Square	242.33**				
Flexibility	P	3	25	59	22	0	8.74
	W	3	30	39	41	8	6.99
Difference		Chi Square	25.75**				
Conformity	P	40	21	36	10	2	207.51**
	W	68	44	48	10	1	406.84**
Difference		Chi Square	24.73**				

*Significant at P.05 level with 4 df

**Significant beyond P.01 level with 4 df

Discussion

A clear unequivocal image of the dropout does not emerge. Similarities between the samples are observed but so are differences. In the two samples of dropouts studied, group tests of aptitude revealed that both samples fell in the lower end of the aptitude distribution, the 16th percentile for general intelligence on the GATB. Differences between the two samples on G were non-significant. The low reading ability of both samples could have affected the scores directly by limiting output but may also have limited their validity indirectly. Response set had been observed in answering items in the Brainard and the PTI - verbal. The standard deviations on the GATB, running close to 20, indicated, moreover, that individual differences in aptitude were fairly prominent. When general intelligence tests were administered individually, the direction of the results was very similar to that observed in GATB testing. There were several differences. Like the GATB, the central tendency on the WAIS was close to the 16th percentile, but the two samples were less variable. In addition, differences between average intelligence of groups were noted, the Western group receiving singificantly lower scores than the Piedmont group. Even more prominent are the differences between the two samples on the Benton Visual Retention Test. Both samples score low in intelligence. Not only are there large numbers of dropouts rated "defective" in both groups but again the Western group has more low scores than the Piedmont group. The average reading achievement of both samples was placed in the sixth grade and the average spelling achievement in the fifth grade. The standard deviations were large, however, and indicated that there were functional illiterates in both samples as well as students able to perform college assignments. Although there were no significant differences between the groups in reading and in spelling, the Piedmont achieved higher scores in arithmetic than did the Western Sample.

Aptitude tests have been found to explain academic achievement. Correlations between aptitude and achievement were generally higher in the Piedmont group. Testing the significance of the difference of correlations between aptitude and achievement, it was observed that aptitude explains achievement to a far greater degree in the Piedmont Sample, emphasizing an important difference between the two samples.

The distributions of Rorschach characteristics of both samples were markedly skewed. Neither sample could be considered random samples from the normal population. Although both samples departed from normality, the differences between the samples were sizable. For some attributes, the two samples were very similar in kind but different in degree. For example both samples were low in conformity and in theoretical mental functioning, average in practical mental functioning, in induction, in deduction, in rigidity, in structuring, in concentration, in range of interests, in human relations, in cooperation, in tact, in confidence, in anxiety, in moodiness, and in activity potential. The incidence of these ratings was generally higher in the Western Sample, resulting in significant differences between the groups. For other attributes, however, the two groups differed in kind. The Piedmont group was high in pedantic mental functioning but the Western group was average. In popular responses the Western group was average, but the Piedmont was low. The Piedmont was below average in originality, but the Western group, average. In aggressiveness, the Western group was high, the Piedmont, average. The Piedmont was average in social responsibility but the Western group was low, whereas, the Piedmont Sample was above average in consistency, the Western group was average. Finally, impulsiveness in the Western group was high, but average in the Piedmont Sample.

Summary

Description of the psychological attributes of high school dropouts is one of the objectives of the research connected with Operation Second Chance, the rehabilitation program for school dropouts in North Carolina. Thus far, two of the three participating groups have been tested. The majority of dropouts in both groups were dull normal in intelligence. Within each group were represented mental defectives as well as dropouts with ability to do college work. In addition, the group living in the mountain areas were significantly lower in intelligence than those living in a less isolated area. The average reading level of both groups was grade six; the average spelling was grade five. Although the two groups did not differ in either spelling or reading achievements, in arithmetic the mountain group was one year behind the Piedmont Sample, whose average was grade five. Again differences within each group were substantial. For example, there were total non-readers as well as students capable of reading college material. Intelligence test scores are often used to explain achievement. Achievement could be so explained, however, in the mountain sample to a far less degree than in the other group.

The absence of normal distributions of personality scores made untenable the hypothesis that the dropouts are typical adults. More important than this, the two samples were unlike in personality. Whereas, one sample might be described as highly perfectionistic, lacking in empathy, unoriginal, highly predictable, and moderately mature in self control, in socially responsibility and in impulsiveness, the second sample was not overly concerned with trivia, nor did they accept obligations to society energetically. They were, however, very mature in self control and moderately predictable, original, and empathic. Although the following attributes were more prominent in the mountain sample, both groups of dropouts may be described as very low in conformity, as well as, in facility for visualizing the over-all picture, but very much like the average adult in thinking about practical problems, facility with inductive and deductive reasoning, tendency toward fixed ideas, mental alertness, concentration, range of interests, cooperativeness, self confidence, anxiety, moodiness, and goal directed motivation.

In conclusion while most dropouts in the present study were low in intelligence, in achievement, in conformity, and in tendency to develop guiding principles, it appears that the term "dropout" covers very many diverse attributes. An unambigous image of the voluntary school withdrawal does not emerge. The possibility of regional differences among dropouts should be explored.

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